Smart-AVI
SMART AUDIO VIDEO INNOVATION

IPDex™

IP-Based KVM & Server Management With OpenBMC

Manage any server from anywhere on your network, including BIOS, power, and hardware sensors. No software, VPN agent, or operating system is required on the target system.

Powered by OpenBMC, IPDex™ delivers full KVM-over-IP, remote power control, hardware sensor monitoring, virtual media, Serial over LAN.

Designed and Manufactured in the USA

FEATURES AND CAPABILITIES FOR REMOTE SERVER MANAGEMENT

Smart-AVI's IPDex™ delivers the out-of-band management depth of enterprise BMC platforms with the openness and security of OpenBMC — in a dedicated hardware appliance for any server, anywhere.

KVM over IP
Full keyboard, video & mouse control over the network from anywhere

BIOS and UEFI Access
Full control before OS boots and configure firmware remotely

Remote Power Control
Power on, off, cycle, reset, and NMI from any browser

Hardware Sensor Monitoring
CPU temp, fan RPM, voltages, power usage via IPMI 2.0

Virtual Media
Mount ISO or IMG over network deploy OS without physical media

OpenBMC Platform
Open-source, auditable, Linux Foundation, and no vendor lock-in

Serial over LAN (SOL)
Serial console access to host system over the network

Alerting & Event Logs
SNMP traps, email alerts, and IPMI SEL event logging

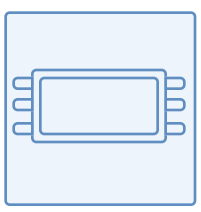
APPLICATIONS

- **Data Centers —** Manage rack servers remotely without dedicated crash carts or console infrastructure.
- **Remote / Branch Offices —** Full server management over WAN — BIOS, power, sensors, OS deployment.
- **Cloud & Hosting Infrastructure —** Out-of-band access to bare-metal servers independent of the host OS.
- **Disaster Recovery —** Recover crashed or corrupted systems remotely via BIOS, virtual media, and serial console.
- **Air-Gapped / Secure Environments —** Dedicated management NIC isolates BMC from the production network.

HOW IT WORKS

Connect IPDex™ to your network and to the target server's management port. Access full KVM, power control, sensor monitoring, virtual media, and serial console from any browser, no software installed anywhere.

1



Connect to the Target Server

Connect IPDex™ to your server. Powered by OpenBMC, it's ready the moment the server has power: no software to install, no operating system needed, and nothing to configure on the machine itself. It keeps working even when the server is powered off, the OS has crashed, or the host network is down.

2

Connect to Your Network

Connect IPDex™ to your network and reach it securely from any standard web browser. There's nothing to install on your computer either: no client software, no plugins, no VPN agents. Log in, and everything you need is in one place.

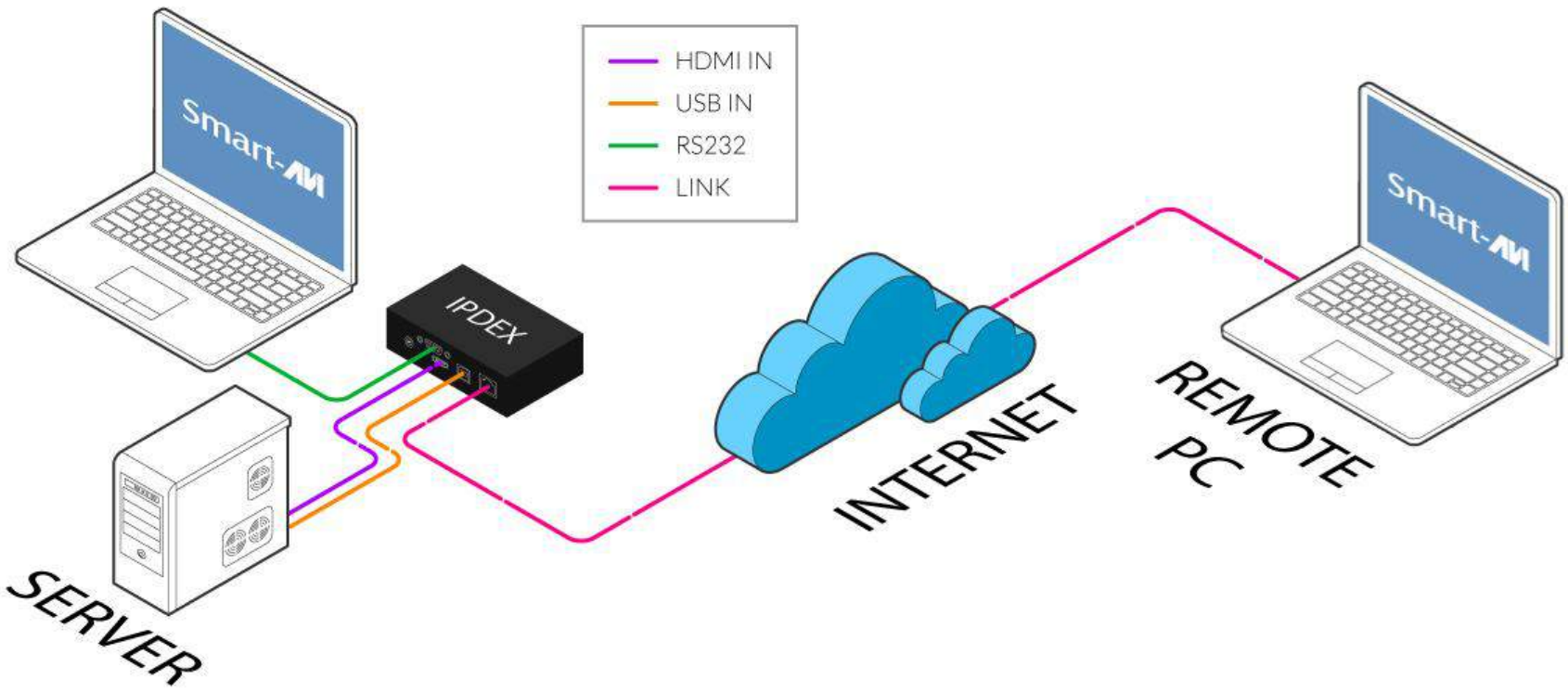
3

Take Complete Control From Anywhere

See the live screen and operate the server as if you were standing in front of it. Power it on or off, reboot it, enter the BIOS, or reinstall the operating system from a remote disc image. Keep an eye on temperatures, fans, and power, and get alerted the moment something needs your attention.

	Everything You Need, Nothing to Install
Secure browser access	Reach IPDex™ from any standard web browser, with nothing to install on your device
Full screen & control	See and operate the server exactly as if you were sitting in front of it
Power & boot control	Power on, off, and reboot remotely, and reach the BIOS at any time
Remote OS installation	Mount a disc image to install or recover an operating system from anywhere
Health monitoring & alerts	Watch temperatures, fans, and power, with automatic alerts when something's wrong
Isolated & secure	Runs independently of the host, with no software footprint to attack

APPLICATION DIAGRAM — CONNECTION OVERVIEW



Connection Topology

Connections at a Glance	
Management NIC	Dedicated network port for IPDex™ BMC access, separate from host traffic
Client Access	Any browser via HTTPS, no software install on the client device
IPMI (UDP 623)	Out-of-band IPMI 2.0 for sensor data, power control, and SOL
SSH (port 22/2200)	Shell access to BMC and Serial over LAN to host console
SNMP / Email Alerts	Threshold-based alerts delivered to monitoring systems

Traffic over the management network:

- **KVM console:** live server screen delivered as HTML5 stream to the browser
- **Keyboard & mouse control:** forwarded from browser to server via BMC
- **Virtual media:** ISO/IMG streamed over network, attached as virtual USB/DVD
- **Sensor data:** CPU temp, fan RPM, voltages, power usage in real time
- **Power commands:** on/off/cycle/reset/NMI executed via IPMI
- **Event logs:** IPMI SEL with full audit trail

No software on target. No OS required. Powered by OpenBMC.

WHY UPGRADE? IPDEX™ VS. SOFTWARE REMOTE ACCESS TOOLS

Many secure environments don't allow software to be installed on a server, so traditional remote-access tools can't even run. IPDex™ is different. Powered by OpenBMC, it delivers full remote control through the hardware itself, with no software, agent, or OS needed on the machine. See the screen, control power, and recover the system from anywhere, even when it's powered off or the OS has crashed.

Feature	IPDex™ (IPDESK-PRO)	Software Remote Tools
Works without a running OS	✓ Yes, works at the hardware level	✗ Needs the OS up and running
Access before the OS loads (BIOS)	✓ Full access from power-on	✗ Not available
Remote power on / off / reboot	✓ Yes, full power control	✗ Not available
Hardware sensor monitoring	✓ CPU temp, fans, voltages, power	✗ Not available
Reinstall an OS remotely	✓ Mount a disc image from anywhere	✗ Not available
Software required on the server	✓ None to install	✗ Agent required on every machine
Works if OS crashes	✓ Yes, keeps working independently	✗ Connection lost
Works if the host network fails	✓ Yes, independent connection	✗ Connection lost
Console access for headless systems	✓ Yes, full console access	✗ Not available
Vendor lock-in	✓ None, open standards-based	✗ Tied to one vendor
Transparent, auditable platform	✓ Open, industry-trusted (OpenBMC)	✗ Closed, proprietary black box
Security model	Isolated from the host, with no software to attack	Shares the host OS and its vulnerabilities
Manufacturing	USA (Las Vegas, NV)	Various / overseas

SPECIFICATIONS

KVM / Network	
Host Interface	Dedicated Management NIC
Client Access	Any modern browser (HTTPS) or SSH
KVM Protocol	HTML5 / H5Viewer (no Java required)
Virtual Media	ISO / IMG mount over network
IPMI Version	IPMI 2.0 (RMCP+)
API	HTTPS REST/JSON — DMTF standard
Serial over LAN	SOL via IPMI or SSH (port 2200)
Driver Required	None (browser-based)

OpenBMC	
Firmware	OpenBMC (Linux Foundation)
Web Server	BMCWeb (HTTPS port 443)
Protocols	IPMI 2.0, SNMP, SSH
Sensor Support	IPMI 2.0 sensors (temp, fan, voltage, power)
Event Logging	IPMI SEL

Power & Control	
Power On	Remote power-on via IPMI
Power Off	Graceful shutdown or hard off
Power Cycle	Hard reset or graceful restart
NMI	Non-maskable interrupt for diagnostics
Chassis Intrusion	Monitored via BMC sensors

Power / Environment	
Power Input	12VDC External
Power Adapter	AC 100–240V, 50/60 Hz (included)
Operating Temp	0°C to +50°C
Storage Temp	–20°C to +60°C
Humidity	Up to 95% (no condensation)
Host OS Required	None — out-of-band hardware
Alerts	SNMP traps, email (SMTP)
Origin	Designed & Manufactured in USA

Part No: **IPDSK-100** **IP-Based KVM & Server Management with OpenBMC. Includes: IPDEX™, PS12VDC-ADAPTER**

Designed and Manufactured in the USA

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